


California Air Resources Board Heavy-Duty Vehicle Greenhouse Gas (GHG) Emission Reduction Regulation



California Environmental Protection Agency
 Air Resources Board

Presentation Overview

- **Purpose**
- **Status of Regulation**
- **Applicability**
- **Requirements**
- **Optional Phase-in Plans**
- **Reefer Trailer Provision**
- **Current Technologies**
- **Local-Haul and Short-Haul Exemptions**
- **Exempt Tractors and Trailers**
- **Enforcement**
- **Funding Assistance**

Reduce GHG Emissions by Improving:

- **Tractor aerodynamics**
 - Streamlined hood, sleeper cab roof fairings, gap fairings, fuel tank fairings, aerodynamic bumper & mirrors
- **Trailer aerodynamics**
 - Side skirts, front gap fairings, rear trailer fairings
- **Tire rolling resistance**
 - Low rolling resistance (LRR) tires

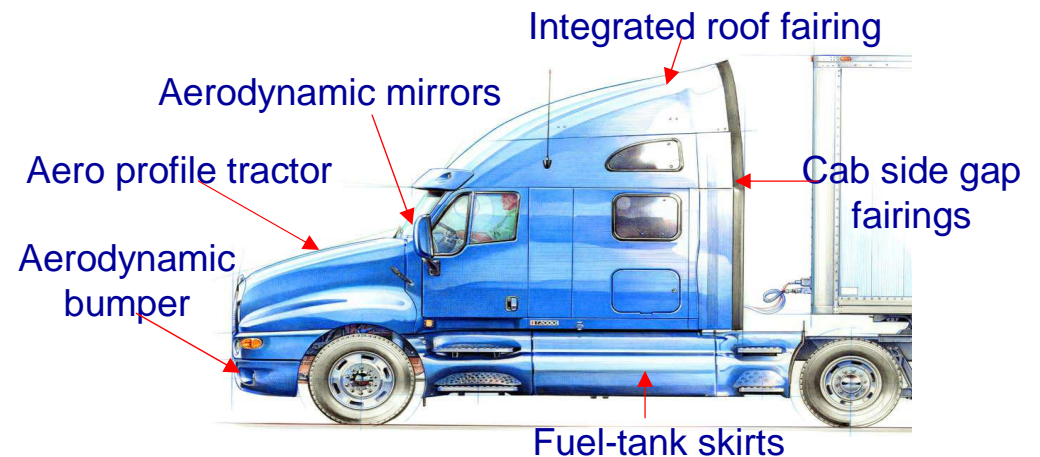
Front Trailer Gap Fairings



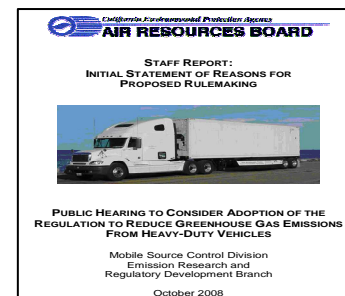
Side Skirts



LRR Tires



Status of Regulation



- Board approved in December 2008
 - <http://www.arb.ca.gov/regact/2008/ghghdv08/ghghdv08.htm>
- 15-day changes
 - 15-day public comment for the revised regulation: September 2009
 - Address issues directed by Board/public
 - Final adoption of regulation: November 2009

Applicability

- Tractors pulling 53' or longer box-type trailers
- 53' or longer box-type trailers (dry-van & refrigerated-van trailers)
- Responsible for compliance: owner, driver, motor carrier, California-based broker, and California-based shipper
- All owners operating affected vehicles in California regardless of where their vehicle is registered
- Implementation begins in 2010

What the Rule Requires

- Tractor requirements for new and existing tractors
 - Aerodynamic equipment and LRR tires on new
 - LRR tires on existing
- Trailer requirements for new and existing trailers
 - Aerodynamic equipment and LRR tires on both new and existing
- Equipment requirements based on U.S. EPA SmartWay certification/verification
- Registration of trailers for the optional extended phase-in plan for fleets
- Registration of local-haul and short-haul tractors and trailers to apply for exemption

Tractor Requirements



New tractor purchases:

- 2011+ model year (MY) sleeper-cab tractors
 - SmartWay certified tractor (*aerodynamics and LRR tires*)
 - **January 1, 2010**
- 2011+ MY day-cab tractors
 - SmartWay verified LRR tires (*tires only*)
 - **January 1, 2010**

Existing tractors:

- All 2010 and older MY sleeper-cab and day-cab tractors
 - SmartWay verified LRR tires (*tires only*)
 - **Compliance by January 1, 2012**

Trailer Requirements



New trailer purchases:

- 2011+ MY 53-foot or longer box-type trailer
 - SmartWay certified *or*
 - Retrofitted with SmartWay technologies:
 - LRR tires* *and*
 - Aerodynamic devices*
 - Select one or more devices that add up to the percent improvement target
 - Minimum of 5% fuel efficiency improvement for a dry van
 - Minimum of 4% fuel efficiency improvement for a refrigerated van
 - **Compliance by January 1, 2010**

*Based on U.S. EPA SmartWay certified/verified technologies

Trailer Requirements (continued)



Existing Trailers:

- 2010 and older MY 53-foot or longer box-type trailers
 - Same requirements as 2011+ MY trailers (*aerodynamics and tires*)
 - Compliance by **January 1, 2013**; *or*
 - Participate in an optional phase-in plan:
 - Small fleet compliance plan
 - Large fleet compliance plan

Optional Small Fleet Compliance Plan



- Small fleet – 20 or fewer trailers
- Phase-in: 2013 – 2016
- Submit Compliance Plan by **July 1, 2012**
- May elect to participate in large fleet compliance plan

| Percentage of Trailers | Compliance Before |
|------------------------|-------------------|
| 25% | January 1, 2014 |
| 50% | January 1, 2015 |
| 75% | January 1, 2016 |
| 100% | January 1, 2017 |

Optional Large Fleet Compliance Plan



- Large fleet – 21 or more trailers
- Phase-in: 2010 – 2015
- Early compliance option
- Submit Compliance Plan by **July 1, 2010**

| Percentage of Trailers | Compliance Before |
|------------------------|-------------------|
| 5% | January 1, 2011 |
| 15% | January 1, 2012 |
| 30% | January 1, 2013 |
| 50% | January 1, 2014 |
| 75% | January 1, 2015 |
| 100% | January 1, 2016 |

Optional Trailer Fleet Compliance Plan Reporting

- **Fleet Information Submitted in the Plan:**

- Trailer fleet list
 - Large Fleet includes only California operated
 - Small Fleet includes total trailer fleet
- Specific information for each trailer
- Identification of trailers to be bought into compliance each year to meet the fleet phase-in plan



- **General Requirements:**

- Provide all required information to ARB by due dates
- Ensure designated trailers meet compliance schedule
- Allow ARB to audit records and equipment
- Maintain all documentation at location specified on trailer fleet list



Delayed Compliance for Some Refrigerated Vans

- Applicable to 2003 - 2008 MY Reefer Trailers with 2003 or newer TRUs
- **No reporting** required for these trailers

| Trailer Model Year | Compliance Before |
|--------------------|-------------------|
| 2003-2004 | January 1, 2018 |
| 2005-2006 | January 1, 2019 |
| 2007-2008 | January 1, 2020 |

New SmartWay Certified Tractors Currently Available

- Fully aerodynamic with LRR tires
- Manufacturers:
 - Freightliner, International, Kenworth, Mack, Peterbilt, Volvo



New SmartWay Certified Dry-van Trailers Currently Available

- Aerodynamics and LRR tires
- Refrigerated-van certification coming soon
- Purchased directly from trailer manufacturer/dealer:
 - Great Dane, Hyundai Translead, Manac, Stoughton Trailers, Strick Corp., Trailmobile Canada, Utility Trailer Manufacturing, Wabash National Corp.



SmartWay Verified Aerodynamic Technologies

- Retrofit technologies
- Technologies: front fairings, rear fairings and side skirts
- Purchased directly from trailer manufacturer/dealer:
 - Freight Wing, Laydon, Nosecone, AeroVolution, ATDynamics, Transtex, Aerodynamic Trailer Systems, Windyne



SmartWay Certified LRR Tires

- Dual or single wide tires
- Retread tires exempt if SmartWay verified casings are used
- Purchased directly from tire manufacturer/dealer:
 - Bridgestone, Yokohama, Hankook, Continental, Goodyear, Michelin



Short-Haul Exemption

- **Tractors only**
 - 50K miles or less per year
 - Exempted from both the aerodynamic and LRR tires
 - Must register vehicle with annual updates on mileage to ARB

Local-Haul Exemption

- **Tractors and trailers**
 - Operation restricted to within a 100-mile radius of registered home base
 - Exemption from aerodynamic requirement only
(LRR tires required)
 - Must register vehicle and home base information with ARB prior to operation

Exempt Tractors and Trailers

- Drayage tractors & trailers
 - Operate within a 100 mile radius of port or intermodal rail yard
- Container-chassis trailers
- Drop-frame van trailers
- Curtain-side van trailers
- Emergency vehicles
- Solid waste vehicles
- Military vehicles



Enforcement to Ensure Equity

- Expand existing inspection efforts
 - Weigh stations, random roadside and fleet
- Web-based database for tracking vehicle records
- Crosscheck with other regulatory programs
- Fleet record audits

Funding Assistance To Help Comply with the Greenhouse Gas Regulation

- Loans are available to some fleets for which they would not otherwise qualify
 - Own less than 21 trucks
 - Fewer than 100 employees or less than \$10 million in annual revenue
 - Operates more than 50% in California
- Loans range between \$5,000 and \$160,000
 - Purchase of 2011 or newer SmartWay certified heavy-duty trucks
 - SmartWay approved aerodynamic technologies

For More Information...

On-Road Heavy Duty Diesel Section

DIESEL HOTLINE:

- (866) 6-DIESEL (866-634-3735)
- Email: 8666diesel@arb.ca.gov

the TRUCK STOP Web Address:

<http://www.arb.ca.gov/msprog/truckstop/truckstop.htm>

Heavy-Duty Vehicle Greenhouse Gas Emission Reduction Regulation Web Address:

<http://www.arb.ca.gov/cc/hdghg/hdghg.htm>

Listserv: <http://www.arb.ca.gov/listserv/hdghg.htm>

SmartWay Program Information:

<http://epa.gov/smartway/>